

<b>DOCKETED</b>	
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<b>Project Title:</b>	Load Flexibility Policy & Planning
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<b>Document Title:</b>	Request for Information and Feedback Expanding Flexible Demand in California
<b>Description:</b>	Request for Information and Comment. Consultant Report for Load Flexibility Signaling Options
<b>Filer:</b>	Bruce Helft
<b>Organization:</b>	California Energy Commission
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**CALIFORNIA ENERGY COMMISSION**

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CEC-057 (Revised 1/21)



# **Request for Information (RFI) and Feedback: Expanding Flexible Demand in California through Statewide MIDAS Data Delivery: A Comparison of Signaling Options**

## **Docket # 24-FDAS-02**

### **Written Comments Due July 3, 2024**

#### **Purpose of Request**

As part of the work to develop Flexible Demand Appliance Standards (FDAS), the California Energy Commission (CEC) is evaluating communications options for cost-effectively delivering information from California's Market Influenced Demand Automation Server (MIDAS) to buildings and appliances to facilitate load shifting. The goal is to use the MIDAS time-dependent rate data and other signals to lower greenhouse gas emissions and utility bills for all California customers and communities, while supporting electricity grid reliability and response to emergency events.

CEC consultants prepared a report that investigates options for communicating price and other grid-related signals to electric appliances to assist in shifting loads, which staff is making available for public comments and feedback to ensure CEC's evaluation of communications options is fully informed by a diversity of stakeholder perspectives. The report is entitled "Expanding Flexible Demand in California through Statewide MIDAS Data Delivery: A Comparison of Signaling Options" and can be found at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-FDAS-02>. See instructions below on how to submit comments.

#### **Background**

The Flexible Demand Appliance Standards are being developed as a result of Senate Bill 49 (Skinner, 2019) that authorized the CEC to reduce greenhouse gas emissions through standards that enable appliances to schedule, shift, or curtail electric appliance operations with consumer consent. The expansion of flexible demand resources in California supports the alignment of electric demand with the availability of renewable energy generation and enhances grid reliability.

The Load Management Standards (LMS) authority is part of the original Warren-Alquist Act of 1974 and is described in Public Resource Code section §25403.5. In October 2022, the CEC adopted an update to the LMS regulations that introduce new requirements for California's largest load serving entities in support of load flexibility and automation. This LMS update leverages the CEC's Market Informed Demand Automation Server (MIDAS) and requires large utilities and Community Choice Aggregators to populate the MIDAS database with time-dependent rates. This database of rates and greenhouse gas emissions provides an information backbone to inform devices and consumers to shift use and address grid challenges. Actual outbound communications and pathways will vary as technologies and policies evolve. Stakeholders are now looking to California agencies to define the information model (e.g., data format and protocols) and the signaling infrastructure needed to make this vision a reality.

In October 2023, the CEC adopted the first flexible demand appliance standard for pool controls that becomes effective in September 2025. This standard includes a default operation schedule that significantly reduces greenhouse gas emissions. These standards provide consumers the ability to access and employ 1) real-time-varying electricity rates, 2) greenhouse gas signals, and 3) load schedules that prompt consumers to increase or decrease their energy consumption in line with available renewable generation. This standard, in the tenth year, could avoid about 394,000 metric tons of carbon dioxide. The current standards for pool controls and those being proposed for electric storage water heaters could contribute a combined 865 MW of load shift potential during a peak hour shift in 2035. Staff is evaluating load shift standards for a range of additional appliances including electric storage water heaters, low voltage thermostats, electric vehicle supply equipment, battery energy storage systems, and other appliances. The communications options described in this consultant report and comments received may impact the development of proposals for each of these appliance types.

### **Request for Comments**

CEC staff has provided some framing questions to help inform public feedback that may be provided in response to this consultant report. It is not required to respond specifically to these guiding questions, if there are other topics of feedback that merit consideration or if some of the subjects are not relevant for a particular commenter. Some topics of interest to staff on the concepts and conclusions presented in the report include:

1. In regard to communication standards, what reliable alternative communication technologies exist to communicate directly to or with appliances?
2. Do you see any opportunities for CEC to mitigate the challenges associated with a 24/7/365 signal that have historically limited broadband/Wi-Fi as a preferred communication pathway?

3. Given the report's conclusion that broadcast delivery of MIDAS data is more cost-effective than point-to-point delivery for the volume of appliances envisioned under FDAS, what are the main concerns with a statewide FDAS signaling system that relies on a broadcast, and what cost-effective solutions might mitigate these concerns?
4. How should the CEC prioritize broadcast options presented in Chapter 3 (FM, AM, Cellular) and why? Are there more appropriate and cost-effective broadcast options not listed here?
5. What message content options (e.g. GHG, price, or some combination) do you suggest being sent using the default FDAS Rate Identification Numbers discussed in Chapter 2, and why?
6. Voluntary utility and third-party programs for load flexibility (shifting) have typically had very low participation from end users. What alternate Load Flexibility program(s) would you recommend that maximize participation while being ubiquitous, cost-effective, equitable, and technically feasible without requiring or precluding participation from third parties?
7. Assuming a statewide broadcast signal were to be deployed, would a default appliance setting that automatically initiates response to MIDAS signals at installation allow for ease in initiating flexibility of the appliance? What issues or concerns would you anticipate with such a plug-and-play functionality?
8. The report proposes a hybrid communication architecture that incorporates both plug-and-play MIDAS response and third-party program enabling technology, represented by the Plug-and-Play Port scenario, as the most cost-effective solution to enable demand flexibility for an appliance. What do you think are some pros/cons of this approach?
9. The consultant report suggests that a gateway architecture cannot support plug-and-play flexibility. Is this accurate from your perspective? If not, describe how a gateway solution could enable both intrabuilding load optimization and plug-and-play flexibility for appliances without sacrificing cybersecurity.
10. Are there equity issues related to a MIDAS plug-and-play architecture that remain unaddressed by the report?
11. Provide a summary of your support for and/or rejection of any of the recommendations and conclusions offered in the report, along with a brief description of why for each.
12. How do you foresee electricity price, GHG, and grid signals being used in an appliance, e.g., an electric storage water heater's logic command and controls, whether through broadcast or internet connections?

## **Submitting Comments to the CEC Docket**

Providing comments in response to this RFI is highly encouraged to inform CEC's load flexibility policy decisions and planning processes. Public input is essential to ensure a complete record is established supporting any decisions.

Written comments, proposals, and other technical material must be submitted to the Docket Unit by **July 3, 2024**. Written comments, attachments, and associated contact information (for example, address, telephone number, email address) will become part of the public record, with access available via any internet search engine.

The CEC encourages use of its electronic commenting system. Visit the e-commenting page, <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=24-FDAS-02>, which links to the comment page for this docket. Enter your contact information and a comment title describing the subject of your comment(s). Comments may be included in the "Comment Text" box or attached in a format consistent with CCR, Title 20, section 1208.1. The maximum file size is 10 MB.

Written materials may also be submitted by email. Include the docket number **24-FDAS-02** and "Expanding Flexible Demand in California through Statewide MIDAS Data Delivery: A Comparison of Signaling Options" in the subject line and send to [docket@energy.ca.gov](mailto:docket@energy.ca.gov).

If preferred, a paper copy may be submitted to:

California Energy Commission  
Docket Unit  
Re: Docket 24-FDAS-02  
715 P Street  
Sacramento, CA 95814

If interested parties wish to maintain the confidentiality of specific data or information, they should submit an application for confidentiality and the confidential documents directly to the Docket Unit through the e-filing system. For information on applying for confidentiality, interested parties should contact the Docket Unit in the CEC's Chief Counsel's Office before submitting a response to this Req. Otherwise, all responses received will become publicly available. Visit the Docket Unit page, <https://www.energy.ca.gov/about/divisions-and-offices/chief-counsels-office/docket-unit>, which links the application for confidentiality.

Questions regarding submitting comments to the docket, including inquiries regarding confidentiality, should be referred to the Docket Unit at [docket@energy.ca.gov](mailto:docket@energy.ca.gov) or (916) 654-5076.

## **Public Advisor and Other Commission Contacts**

The CEC's Public Advisor assists the public with participating in CEC proceedings. To request interpreting services, reasonable modification or accommodations, and other

modifications, contact the Public Advisor at [publicadvisor@energy.ca.gov](mailto:publicadvisor@energy.ca.gov) or by phone at (916) 957-7910. Requests should be made as soon as possible but at least five days in advance. The CEC will work diligently to meet all requests based on availability.

Direct questions on the subject matter of this RFI to Bruce Helft at [bruce.helft@energy.ca.gov](mailto:bruce.helft@energy.ca.gov), (916) 232-9045.

## **Media**

Direct media inquiries to the Media and Public Communications Office at [mediaoffice@energy.ca.gov](mailto:mediaoffice@energy.ca.gov) or call (916) 654-4989.

## **Subscribing to E-mail List Servers**

Interested parties who would like to follow or participate in this proceeding should subscribe to the "Flexible Demand Appliances and Load Management and Demand Response" subscription list found at the CEC's subscriptions webpage, <https://www.energy.ca.gov/subscriptions>. By subscribing to this list, interested parties are consenting to receive information, notices, and other communications, including information associated with CEC's load flexibility rulemaking proceedings, by electronic mail.

## **Availability of Documents**

All records will be accessible in the Load Flexibility Policy & Planning, <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-FDAS-02>. When new information is posted, an email will be sent to those on the Flexible Demand Appliances and Load Management and Demand Response listserv. To subscribe to that listserv visit the [Flexible Demand Appliances home page](https://www.energy.ca.gov/proceedings/active-proceedings/flexible-demand-appliances) at: <https://www.energy.ca.gov/proceedings/active-proceedings/flexible-demand-appliances>.